

What claimed is:

1. A system for supporting transportations and distributions (T&D), which is applied on the management of supporting T&D of delivering goods from a place to at least one other place, the system consists of plural systems:

5 a supporting T&D system, which processes a plan operation for goods before distribution after accepting orders, procedures of the operation are as following:

(1) T&D data establishment;

(2) Vehicle-arrangement operation;

10 after the above procedures, at least a supporting T&D result is then generated;

15 a distribution and returning process system, which processes a monitoring and control operation for goods in distribution and goods after distribution when vehicles are on their returning ways under the supporting T&D result is generated, procedures of the operation are as following:

(1) Control and monitoring operation;

(2) Result maintain and evaluation;

after the above procedures, at least an evaluation result is then come out;

20 a transportation result management system, which processes that to regularly and irregularly analyze the supporting T&D result of goods before distribution and the evaluation result of monitoring and control of goods in distribution and goods after distribution when vehicles are on their returning ways, plural analyzed items are as following:

25 (1) Cost/expense/benefit/reward management;

(2) Drivers/vehicles management;

(3) Resources/energy management.

2. The system for supporting T&D as cited in claim 1, wherein, the T&D data establishment of the plan operation for goods before distribution of the

supporting T&D system includes following:

- (a) T&D basic data maintain setting;
- (b) The needs for delivering ordered goods.

3. The system for supporting T&D as cited in claim 1, wherein, the vehicle-
arrangement operation of the plan operation for goods before distribution of
the supporting T&D system includes following:

- (a) The fore process;
- (b) Vehicle-arrangement operation;
- (c) Trip adjustment operation;
- (d) Cut-in vehicle-arrangement operation;
- (e) Vehicle assignment operation.

4. The system for supporting T&D as cited in claim 1, wherein, the control
and monitoring operation of goods in distribution and goods after
distribution when vehicles are on their returning ways of the distribution
and returning process system includes following:

- (a) In-and-out control;
- (b) Monitoring and control operation;
- (c) Returning control.

5. The system for supporting T&D as cited in claim 1, wherein, the result
maintain and evaluation of the distribution and returning process system
depends on receipts of vehicles in distribution and daily vehicle-assignment
records to maintain and valuate, thus contract vehicle valuation results,
driver reward valuation results, etc. are then generated.

6. The system for supporting T&D as cited in claim 3, wherein, the fore
process of item (a) is a routine and fore vehicle-arrangement operation.

7. The system for supporting T&D as cited in claim 3, wherein, the vehicle-
arrangement of item (b) depends on one of the following types to process:
automatic vehicle-arrangement, computer added artificial vehicle-
arrangement; a preliminary result for preview is then brought out.

8. The system for supporting T&D as cited in claim 3, wherein, the trip adjustment operation of item (c) focuses on one of the following trip assemblies to process: multiple transfer-trip assemblies, return-trip assemblies; and comparison and confirmation are executed before and after adjustment.

9. The system for supporting T&D as cited in claim 3, wherein, the cut-in vehicle-arrangement operation of item (d) recognizes that there is even one new order accepted or not after the comparison and confirmation of item (c) are done; if not, to continue next item; if yes, to process the second batch of orders, and taking one of the following vehicle-arrangements: computerize cut-in vehicle-arrangement, artificial cut-in vehicle-arrangement; a preliminary result for preview is then brought out, and going back to item (c) for re-arrangement.

10. The system for supporting T&D as cited in claim 4, wherein, the in-and-out control of item (a) focuses on the following vehicles: private vehicles (business organizations purchase their own vehicles), contract vehicles (sign contracts with vehicle rental companies), etc.

11. The system for supporting T&D as cited in claim 4, wherein, the monitoring and control operation of item (b) consists of: vehicles in motion, collecting delivery conditions and report them back to delivery center, etc.

12. The system for supporting T&D as cited in claim 4, wherein, the returning control of item (c) is the control operation within and after vehicle returning.

13. The system for supporting T&D as cited in claim 12, wherein, vehicles may return to a place, and the place is one of the following: original place where vehicles come from, at least one other place where has goods to be delivered.

14. A means for supporting T&D, which is applied on the management of supporting T&D of delivering goods from a place to at least one other place, the means consists of plural modules:

an geographic information system application module, which may calculate the shortest distances for goods loading places to customers' places, customers' places to customers' places, etc. according to data of

customers and distributions;

an vehicle-arrangement and path plan module, which may arrange distributions' sequences depending on data in database via automatic, artificial or cut-in vehicle-arrangement process, thus an order path network simulation is then brought out; the path network simulation is sent to the geographic information system application module for displaying distribution paths; a vehicle and driver assignment module may recommend distribution paths and cooperate data of transportation companies, characteristics of each vehicle and driver, cost, etc. to process vehicle and driver assignment and goods distribution for each trip;

a monitoring and recording module, which may function the control and monitor of goods in distribution, which means to control each vehicle running conditions when goods in distribution, and to monitor and record vehicle paths and distribution time interval to the time of distribution finished, which means to monitor and record all situations until vehicles arriving at loading places.

15. The means for supporting T&D as cited in claim 14, wherein, the data of customers and distributions in the geographic information system application module is collected and sorted by a basic data module, and the data include following: T&D data maintain, vehicle-arrangement principle, region data maintain, customer T&D data check and maintain, etc.

16. The means for supporting T&D as cited in claim 15, wherein, the data in T&D data maintain include following: private vehicles (business organizations purchase their own vehicles), contract vehicles (sign contracts with vehicle rental companies), etc.

17. The means for supporting T&D as cited in claim 14, wherein, the procedure of the path network simulation are following:

(a) To find order data from the data of region data maintain and customer T&D data check and maintain, and to generate results after establishment;

(b) The results cooperates with the geographic information system application module to develop further logistic network result, etc.;

(c) Vehicle-arrangements and path plans are brought out.

18. The means for supporting T&D as cited in claim 14, wherein, the procedure of the vehicle and driver assignment are following:

(a) To find relative data from the data of T&D data maintain and vehicle-arrangement principle, and to process the vehicle and driver assignment;

(b) To print out assignment result checks;

(c) An overall plan is then produced.

19. The means for supporting T&D as cited in claim 14, wherein, the loading places may be one of the following: original place where vehicles come from, at least one other place where has goods to be delivered.

20. The system for supporting T&D as cited in claim 3, wherein, the vehicle assignment operation of item (e) processes the assignment for vehicles and drivers.